

~~FILED UNDER SEAL PURSUANT TO PROTECTIVE ORDER~~

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

**THE TRUSTEES OF PURDUE  
UNIVERSITY,**

**Plaintiff,**

**vs.**

**STMICROELECTRONICS  
INTERNATIONAL N.V. and  
STMICROELECTRONICS, INC.,**

**Defendants.**

**Civil Action No. 6:21-CV-00727-ADA-DTG**

**JURY TRIAL DEMAND**

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**DEFENDANTS' OPPOSED MSJ NO. 3: MOTION FOR PARTIAL SUMMARY  
JUDGMENT OF NO INFRINGEMENT UNDER THE DOCTRINE OF EQUIVALENTS**

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Defendants move for partial summary judgment that the accused products do not infringe any of the elements in the bodies of the asserted claims of the lone asserted '633 patent under the Doctrine of Equivalents. Plaintiff has completely failed to present expert opinions sufficient to raise a disputed issue of material fact regarding whether any elements in the bodies of either asserted claim are met under the Doctrine of Equivalents.<sup>1</sup> Furthermore, Prosecution History Estoppel precludes Plaintiff from asserting the Doctrine as to many of the elements. Defendants are thus entitled to partial summary judgment of no infringement under the Doctrine of Equivalents as to all elements in the bodies of the asserted claims.

The parties conferred regarding this motion and it is opposed because Plaintiff does not agree to the relief requested.

#### **I. STATEMENT OF UNDISPUTED MATERIAL FACTS**

1. Plaintiff asserts claims 9 and 10 of U.S. Patent No. 7,498,633 (the "'633 patent").  
Ex. 1, '633 patent at cls. 9-10.

2. During prosecution, the applicant made the following amendments to pending claims 12 and 13, that issued as claims 9 and 10, respectively (additions underlined, deletions ~~struck through~~) – the five elements that were the subject of narrowing amendments are labeled [A] to [E]:

12. A double-implanted metal-oxide semiconductor field-effect transistor comprising:

[A] a ~~semiconductor~~ silicon-carbide substrate;

a drift semiconductor layer formed on a front side of the semiconductor substrate;

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<sup>1</sup> Plaintiff The Trustees of Purdue University ("Plaintiff")'s experts submitted opinions that purportedly address DOE for the preamble of claim 9. Those opinions are too conclusory to support a DOE infringement finding as to the preamble, but, to lessen the burden on the Court, Defendants STMicroelectronics International N.V. and STMicroelectronics, Inc. (collectively, "ST") do not address the preamble in this motion.

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a first source region;

[B] a first source electrode formed over the first source region, the first source electrode defining a longitudinal axis;

[C] a plurality of first base contact regions defined in the first source region, each of the plurality of first base contact regions being spaced apart from each other in a direction parallel to the longitudinal axis defined by the first source electrode;

a second source region; ~~and~~

[D] a second source electrode formed over the second source region, the second source electrode defining a longitudinal axis;

[E] a plurality of second base contact regions defined in the second source region, each of the plurality of second base contact regions being spaced apart from each other in a direction parallel to the longitudinal axis defined by the second source electrode; and

a JFET region defined between the first source region and the second source region, the JFET region having a width less than about three micrometers.

13. The double-implanted metal-oxide semiconductor field-effect transistor of claim 12, wherein the JFET region has a width of about one micrometer.

Ex. 2, '633 File History at PU00000346 (original claims), PU00000418 (first amendment), PU00000472 (second amendment).

3. Element [A] was amended to narrow the scope from semiconductor substrate to silicon carbide substrate to overcome a rejection based on the Ono prior art reference. *Id.* at PU00000424-25 (arguing that inclusion of amended element distinguishes Ono); *see also id.* at PU00000472 (fixing spelling mistake, from “silicone” to “silicon”).

4. Element [B] was added to overcome a rejection based on the combination of the Ono prior art reference with the Kumar and Zeng prior art references. *Id.* at PU00000478-79 (arguing that inclusion of amended element distinguishes Ono, Kumar, and Zeng).

5. The “a plurality of first base contact regions defined in the first source region, each of the plurality of first base contact regions being spaced apart from each other” portion of element [C] was added to overcome a rejection based on the Ono prior art reference. *Id.* at

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PU00000424-25 (arguing that inclusion of this portion of amended element distinguishes Ono).

The remainder of element [C] – “in a direction parallel to the longitudinal axis defined by the first source electrode” – was later added to overcome a rejection based on the combination of the Ono prior art reference with the Kumar and Zeng prior art references. *Id.* at PU00000478-79.

6. Element [D] was added to overcome a rejection based on the combination of the Ono prior art reference with the Kumar and Zeng prior art references. *Id.* at PU00000478-79 (arguing that inclusion of amended element distinguishes Ono, Kumar, and Zeng).

7. The “a plurality of second base contact regions defined in the second source region, each of the plurality of second base contact regions being spaced apart from each other” portion of element [E] was added to overcome a rejection based on the Ono prior art reference. *Id.* at PU00000424-25 (arguing that inclusion of this portion of amended element distinguishes Ono). The remainder of element [E] – “in a direction parallel to the longitudinal axis defined by the second source electrode” – was later added to overcome a rejection based on the combination of Ono with the Kumar and Zeng prior art references. *Id.* at PU00000478-79.

8. Plaintiff submitted infringement expert reports from two purported experts, Dr. James Cooper, the lead named inventor of the asserted patent, and Dr. Sarit Dhar.

9. The entirety of the disclosure in Dr. Cooper’s expert report regarding DOE infringement is limited to addressing the preamble of claim 9. Ex. 3, Cooper Rpt. at ¶52.

10. Dr. Dhar’s expert report includes the following in its “SUMMARY OF OPINIONS” section:

22. In my opinion, the Accused Products literally infringe the Asserted Claims, but to the extent that any claim element is not literally present in any of the Accused Products, or is not practiced by ST or its customers, it is my opinion that ST infringes the claims under the doctrine of equivalents (“DOE”) because any differences found to exist between any claim element of the Asserted Claims and the accused products or methods are insubstantial.

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Ex. 4, Dhar Rpt. at ¶ 22.

11. However, when addressing the elements of the asserted claims, the entirety of the disclosure in Dr. Dhar's expert report regarding DOE infringement is, like Dr. Cooper's report, limited to addressing the preamble of claim 9. *Id.* at ¶72.

12. Neither Drs. Cooper or Dhar were deposed following submission of their expert reports, and thus neither offered any additional opinions regarding the Doctrine of Equivalents .

## **II. LEGAL STANDARDS**

### **A. Summary Judgment Standard.**

Rule 56(a) of the Federal Rules of Civil Procedure provides that summary judgment shall be granted "if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." FED. R. CIV. P. 56(a). Partial summary judgment may be granted on discrete issues, including infringement under the Doctrine of Equivalents, particular where the patentee fails to offer sufficient expert opinions in support of any DOE allegations and/or Prosecution History Estoppel applies. *E.g., Network-1 Tech., Inc. v. Alcatel-Lucent USA, Inc.*, No. 6:11-cv-492-RWS-KNM, Dkt. 928 at 7-8 (E.D. Tex. July 6, 2017) (attached as Ex. 5) (recommending granting partial summary judgment of no DOE infringement based on insufficient expert opinions presented in support), *adopted* Dkt. 1023 at 3 (E.D. Tex. Oct. 13, 2017) (attached as Ex. 6) (adopting R&R in relevant part); *Abstrax, Inc. v. Dell, Inc.*, No. 2:07-cv-221, Dkt. 229 at 10 (E.D. Tex. Sept. 18, 2009) (attached as Ex. 7) (recommending granting partial summary judgment of no DOE infringement based on insufficient evidence presented in support), *adopted* Dkt. 280 at 7 (E.D. Tex. Oct. 7, 2009) (attached as Ex. 8) (adopting R&R in relevant part); *Function Media, LLC v. Google, Inc.*, No. 2:07-cv-279-CE, Dkt. 325 at 6 (E.D. Tex. Dec. 16, 2009) (attached as Ex. 9) (granting partial summary judgment of no DOE infringement based on lack of allegations of DOE infringement); *Huawei Tech. Co. v.*



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*T-Mobile US, Inc.*, No. 2:16-cv-00052-JRG-RSP, Dkt. 375 at 2-5 (E.D. Tex. Sept. 6, 2017) (attached as Ex. 10) (recommending granting partial summary judgment of no DOE infringement based on PHE), *adopted* Dkt. 396 at 1 (E.D. Tex. Sept. 13, 2017) (attached as Ex. 11) (adopting R&R in full); *Summit 6 LLC v. Research In Motion Corp.*, No. 3:11-cv-367-O, Dkt. 510 at 4-12 (N.D. Tex. Feb. 6, 2013) (attached as Ex. 12) (granting partial summary judgment of no DOE infringement based on PHE).

### **B. Doctrine of Equivalents Standards.**

“Under [the doctrine of equivalents] a product or process that does not literally infringe upon the express terms of a patent claim may nonetheless be found to infringe if there is ‘equivalence’ between the elements of the accused product or process and the claimed elements of the patented invention.” *Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 21 (1997). “Each element contained in a patent claim is deemed material to defining the scope of the patented invention, and thus the doctrine of equivalents must be applied to individual elements of the claim, not to the invention as a whole.” *Id.* at 29. The patentee has the burden of proving infringement under the Doctrine of Equivalents. *Eli Lilly and Co. v. Hospira, Inc.*, 933 F.3d 1320, 1328 (Fed. Cir. 2019).

#### **1. Standards Regarding Sufficiency of Evidence/Opinion Supporting the Doctrine of Equivalents.**

Binding Federal Circuit precedent requires patentees to put forth particularized testimony supporting any Doctrine of Equivalents allegations to survive summary judgment:

Under Federal Circuit law, “a patentee must . . . provide particularized testimony and linking argument as to the ‘insubstantiality of the differences’ between the claimed invention and the accused device or process, or with respect to the function, way, result test when such evidence is presented to support a finding of infringement under the doctrine of equivalents.” *Tex. Instruments, Inc. v. Cypress Semiconductor Corp.*, 90 F.3d 1558, 1567 (Fed. Cir. 1996). This evidence must be presented on a limitation-by-limitation basis. *Id.* Generalized testimony regarding the overall similarity between the accused products and the claims is not sufficient.

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*Id.* “A patentee should typically provide particularized testimony from a qualified expert describing the claim limitations and establishing that those skilled in the art would recognize the equivalents.” *Colucci v. Callaway Golf Co.*, 748 F. Supp. 2d 629, 632 (E.D. Tex. 2010) (citation omitted).

*Network-I Tech.*, Dkt. 928 at 3 (Ex. 5) (footnote omitted) (recommending granting partial summary judgment of no DOE infringement).

## 2. Prosecution History Estoppel.

One of the legal limits on the Doctrine of Equivalents is Prosecution History Estoppel. PHE “bars recapture of subject matter surrendered during prosecution.” *Hilgraeve Corp. v. McAfee Assocs., Inc.*, 224 F.3d 1349, 1355 (Fed. Cir. 2000). It “arises when a patent applicant narrows the scope of his claims during prosecution for a reason ‘substantial[ly] relating to patentability.’” *Eli Lilly*, 933 F.3d at 1330. A narrowing amendment substantially relates to patentability if made “to avoid the prior art, or otherwise to address a specific concern—such as obviousness—that arguably would have rendered the claimed subject matter unpatentable.” *Warner-Jenkinson*, 520 U.S. at 30-33. “Such a narrowing amendment is presumed to be a surrender of all equivalents within ‘the territory between the original claim and the amended claim.’” *Eli Lilly*, 933 F.3d at 1330 (quoting *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 740-41 (2002)). The burden is on the patentee to show otherwise. *Pioneer Magnetics, Inc. v. Micro Linear Corp.*, 330 F.3d 1352, 1356 (Fed. Cir. 2003). Such a showing requires “establishing one of three exceptions: (1) the equivalent was unforeseeable at the time of the application; (2) the rationale underlying the amendment bears no more than a tangential relation to the equivalent in question; or (3) there is some other reason suggesting that the patentee could not reasonably be expected to have described the equivalent.” *EMD Millipore Corp. v. AllPure Techs., Inc.*, 768 F.3d 1196, 1203 (Fed. Cir. 2014).

Whether PHE applies, and whether the patentee has rebutted the presumption it applies,

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are matters of law for a judge to decide, not the jury. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co. Ltd.*, 344 F.3d 1359, 1367–68 (Fed. Cir. 2003) (*en banc*). When making those determinations, courts “look to the specifics of the amendment and the rejection that provoked the amendment to determine whether estoppel precludes the particular doctrine of equivalents argument being made.” *Intervet Inc. v. Merial Ltd.*, 617 F.3d 1282, 1291 (Fed. Cir. 2010).

### III. ARGUMENT

Partial summary judgment of no infringement under the Doctrine of Equivalents should be granted for two reasons. First, for all but the preamble of claim 9, Plaintiff’s expert reports put forth no opinions on the Doctrine. The lone statement purporting to assert DOE infringement in the alternative for all elements not literally met is so conclusory that it fails as a matter of law to meet the Federal Circuit’s standard for surviving summary judgment. Second, for five elements of the asserted claims, Prosecution History Estoppel also bars applying the Doctrine.

#### **A. Plaintiff Does Not Adequately Allege DOE Infringement as to Any Claim Elements in the Bodies of the Asserted Claims, Warranting Summary Judgment.**

Other than for the preamble of claim 9, Plaintiff’s experts do not even allege infringement under DOE for any elements of claims 9 or 10. SOF, ¶¶8-12. That alone warrants granting partial summary judgment of no DOE infringement as to all elements except the preamble. *Function Media*, No. 2:07-cv-279-CE, Dkt. 325 at 6 (Ex. 9) (granting partial summary judgment of no DOE infringement based on lack of allegations of DOE infringement). The Dhar report does state generally in its summary of opinions that, to the extent there is not literal infringement, there is infringement under DOE. SOF, ¶10. But such a generic opinion, if it can even be called an opinion, fails to support a finding of infringement under DOE as to any element. *AquaTex Indus., Inc. v. Techniche Sols.*, 479 F.3d 1320, 1328-29 (Fed. Cir. 2007) (affirming grant of summary judgment on DOE because patentee “was required to provide

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particularized testimony and linking argument on a limitation-by-limitation basis that created a genuine issue of material fact as to equivalents” and did not); *PC Connector Sols. LLC v. SmartDisk Corp.*, 406 F.3d 1359, 1364 (Fed. Cir. 2005) (affirming grant of summary judgment on DOE: “Having presented the district court with only conclusory statements regarding equivalence, without any particularized evidence and linking argument as to the ‘insubstantiality of the differences’ between the claimed invention and the accused device, or with respect to the ‘function, way, result’ test, PC Connector is now foreclosed from invoking the substantive application of the doctrine of equivalents.”); *Network-I Tech.*, Dkt. 928 at 7-8 (Ex. 5) (recommending granting summary judgment of no DOE infringement based on insufficient expert opinions).

**B. Prosecution History Estoppel Bars Application of DOE as to Five Claim Elements, Further Warranting Summary Judgment as to Those Elements.**

Each of elements [A]-[E] were either narrowed to overcome a prior art rejection ([A]), added to overcome a prior art rejection ([B]-[E]), or both ([C] and [E]). SOF, ¶¶2-7. Thus, it is presumed that PHE applies to each and bars a finding of infringement via DOE. *Eli Lilly*, 933 F.3d at 1330 (narrowing existing limitation is narrowing amendment); *Honeywell Int’l Inc. v. Hamilton Sundstrand Corp.*, 370 F.3d 1131, 1141 (Fed. Cir. 2004) (“[A]n amendment adding a new claim limitation constitutes a narrowing amendment . . .”). The burden is on Plaintiff to establish an exception to the application of PHE. But Plaintiff has no support to argue that the portions of ST’s products accused of meeting these limitations were unforeseeable at the time of the application that issued as the ’633 patent was filed, or that the rationale underlying the amendments at issue bear no more than a tangential relation to the portions of ST’s products accused of meeting these limitations. *EMD Millipore*, 768 F.3d at 1203. Should Plaintiff attempt to set forth such an argument in opposition, ST reserves the right to address it on reply.

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#### IV. CONCLUSION

ST respectfully requests the Court grant partial summary judgment of no DOE infringement as to all elements of both asserted claims, other than the preamble of claim 9.

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Dated: August 8, 2023

Respectfully submitted,

By: /s/ Michael D. Hatcher

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**CERTIFICATE OF SERVICE**

I, the undersigned, do hereby certify that a true and correct copy of the foregoing document was served on all parties to this action via electronic mail on August 8, 2023.

/s/ Michael D. Hatcher

Michael D. Hatcher